

Atlantic Richfield Company

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4 Centerpointe Drive, 4-435
La Palma, CA 90623
Direct: (714) 228-6770

January 6, 2014

Mr. Steven Way
On-Scene Coordinator
Emergency Response Program (8EPR-SA)
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Delivered via e-mail

**Subject: December 2013 Monthly Progress Report
Rico-Argentine Mine Site – Rico Tunnels
Operable Unit OU01, Rico, Colorado**

Dear Mr. Way,

This progress report describes activities conducted during the month of December 2013 at the Rico-Argentine Mine Site (site) and activities anticipated to occur during the upcoming month. These activities are organized by task as identified in the Removal Action Work Plan. This progress report is being submitted in accordance with Paragraph 35.a of the Unilateral Administrative Order for Removal Action (the "UAO"), dated March 17, 2011.

ACTIVITIES FOR DECEMBER

This section describes significant developments during the preceding period including actions performed and any problems encountered during this reporting period.

Site-Wide Activities

- Performed an avalanche hazard observation on December 17, 2013, to evaluate site-specific snowpack conditions and access route safety.
- No other onsite activities were completed during December 2013 due to difficult weather conditions and as agreed upon with Steve Way, U.S. Environmental Protection Agency (USEPA).

Task A – Pre-Design and Ongoing Site Monitoring

- Submitted and posted the Final August 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports to the project SharePoint site.
<https://www.aecomonline.net/projects/Rico/>
- Submitted the Preliminary September 2013 Surface Water and Ground Water Sampling and Flow Monitoring data.
- Preparing and reviewing September, October, and November 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports prior to submittal to EPA and posting to the project SharePoint site.
- No surface or ground water sampling was completed during the month of December 2013 as agreed to by Steve Way, USEPA On-Scene Coordinator. Sampling will be continued in 2014 as weather allows.
- Continued work on overall site Data Management System (EQuIS) development. A web-based system with site data which can be queried in a tabular format has been set up and is currently

being tested and refined. A web-based system with site data which can be queried from a map is complete and being tested internally.

- Additional evaluation of potential improvements on field water data gathering and telemetry.
- Continued work on the antenna permit with the Town of Rico.

Task B – Management of Precipitation Solids in the Upper Settling Ponds

- The St. Louis discharge water was routed to Pond 15 during the Month of December.

Task C – Design and Construction of a Solids Repository

- Continued design of a phased solids repository at the South Stacked Repository – Option A (SSR-A) site.
- Continued evaluation of geotechnical field and laboratory test data on Pond 18 solids placed in the Interim Drying Facility (IDF) in 2011.
- Continued preparation of the Dolores County Land Use Application and associated documents for a Certificate of Designation for the solids repository.
- Submitted the *Engineering Design and Operations Plan (ED&OP) for the Solids Repository* to USEPA on December 13, 2013.
- Continued work to secure lands needed for a permanent solids repository.

Task D – Hydraulic Control Measures for the Collapsed Area of St. Louis Tunnel Adit

- Continued design of the proposed St. Louis Tunnel hydraulic control remedy which included continued drainage through the debris plug with sub-horizontal relief wells to control hydraulic head behind the debris plug, plus monitoring wells to evaluate hydraulic head in the tunnel.

Task E – Source Water Investigations and Controls

- Continued Blaine Tunnel water depth and flow monitoring behind the Blaine Coffey Dam and Blaine Flume.
- Completed and submitted to the USEPA on December 31, 2013, the *Evaluation of Source Water Controls Report* in accordance with Subtask E3, “Evaluation of Hydraulic Controls Alternatives”.

Task F – Water Treatment System Analysis and Design

- Continued pilot-scale wetland treatability study activities.
- Flow through the pilot-scale wetland will be maintained until the matrix materials from the rock drain and wetland cell are re-used as inoculum for the wetland demonstration.
- Completed and submitted to the EPA on December 31, 2013, the *Unified Wetland Design and Technical Specifications* incorporating a demonstration-scale vertical flow wetland that complements and integrates with the existing horizontal flow wetland demonstration. .

ACTIVITIES FOR UPCOMING MONTH

This section describes developments expected to occur during the upcoming reporting period, including a schedule of work to be performed, anticipated problems and planned resolution of past or anticipated problems.

Site-Wide Activities

- Finalize Winter Operations Plan for 2013/2014 water inspection activities.
- Review and finalize the draft avalanche hazard study report for the St. Louis Ponds Site and the Argentine Mill Site/Access Road.
- Continue performing periodic avalanche hazard observations as needed to evaluate site-specific snowpack conditions and access route safety.



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Task A – Pre-Design and Ongoing Site Monitoring

- Conduct inspection of St Louis Pond water level and free-board.
- Conduct inspection of the St Louis Pond inlets, outlets and spillways as well as general embankment condition.
- Download flow data at DR3 and DR6. Inspect condition of flumes and monitoring equipment.
- Complete, review, and post the September 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports to the project SharePoint site during January 2014.
<https://www.aecomonline.net/projects/Rico>
- Submit Preliminary October and November 2013 Surface Water and Ground Water sampling and flow data for the site.
- Review the October, and November 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports.
- Post Surface Water and Ground Water quality data to the SharePoint site after QA/QC review; and submit EQuIS data downloads to URS/EPA pending completion of EQuIS database.
- Due to winter weather hazards at the site, surface water and groundwater sampling/analyses and flow measurements are not expected to be conducted during January. The possibility of not conducting this sampling and monitoring event was discussed and agreed upon with Steve Way, USEPA.
- Continue testing on the site Data Management System in preparation for system rollout.

Task B – Management of Precipitation Solids in the Upper Settling Ponds

- Continue evaluation of calcine residuals/Pond 18 solids SPLP and associated geochemical testing.
- Continue routing St. Louis discharge to Pond 15.

Task C – Design and Construction of a Solids Repository

- Continue preparation of the Dolores County Land Use Application and ED&OP for a Certificate of Designation for the solids repository.
- Continue efforts to secure access to lands needed for a permanent drying facility and solids repository.

Task D – Hydraulic Control Measures for the Collapsed Area of St. Louis Tunnel Adit

- Continue evaluation of potential for in-mine storage of St. Louis Tunnel flows behind the planned bulkhead.
- Continue detailed design for the hydraulic control measures for the collapsed area of the St. Louis Tunnel (adit).

Task E – Source Water Investigations and Controls

- Continue Blaine Tunnel water depth and flow monitoring behind the Blaine Coffey Dam and Blaine Flume.
- Continue preparing a summary report documenting the results of the 2012 and 2013 St. Louis Tunnel Discharge Source Mine Water Treatability Studies (517 Shaft injection tests).

Task F – Water Treatment System Analysis and Design

- Continue pilot-scale wetland treatability study activities.
 - Maintain flow through the pilot-scale wetland until the matrix materials from the rock drain and wetland cell are re-used as inoculum for the wetland demonstration.
 - Perform an inspection of the pilot-scale wetland during routine pond system inspections.



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- Prepare an addendum to the *St. Louis Tunnel Discharge Constructed Wetland Pilot Scale Test Completion Report* summarizing the results of filtrate sediment samples submitted for laboratory scanning electron microscopy analysis in September 2013.
- Continue wetland demonstration treatability study activities.
 - A *Final Design Report* will be completed and submitted to EPA by January 31, 2014, describing the design basis and rationale for the wetland demonstration *Unified Wetland Design and Technical Specifications*.
 - Prepare revisions to the wetland demonstration Work Plan and Performance Monitoring Plan to document changes, per the *Unified Wetland Design and Technical Specifications*.
- Continue scoping additional data needs as necessary related to treatment system alternatives.

If you have any questions, please feel free to contact me at (951) 265-4277.

Sincerely,



Anthony R. Brown
Project Manager
Atlantic Richfield Company

cc: R. Halsey, Atlantic Richfield
T. Moore, Atlantic Richfield
C. Harris, Atlantic Richfield
C. Sanchez, Anderson Engineering
D. McCarthy, Copper Environmental Consulting
T. Kreutz, AECOM
D. Yadon, AECOM
J. Decker, AECOM
J. Christner, Weston Solutions, Inc.
S. Riese, EnSci
A. Cohen, Esq., Davis Graham & Stubbs
W. Duffy, Esq., Davis Graham & Stubbs
S. D'Cruz, Esq., Atlantic Richfield
A. Piggott, Esq., U.S. EPA
M. Lombardi, AMEC
S. Archer, AMEC

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